

**REMARKS**

**I. Formal Matters**

Claims 1-5 and 8-13 are pending in the Application.

The Examiner has not indicated that the drawings filed with the application on September 23, 2003, have been accepted. The Examiner is respectfully requested to acknowledge such acceptance in the next PTO communication.

Applicant thanks the Examiner for the brief telephone conversation on April 17, 2008, with Applicant's representatives Peter A. McKenna and Navid Fanaeian.

**II. Objection to Specification**

The Examiner objects to the specification for allegedly failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner asserts that the specification discloses a "computer **usable** medium" whereas "computer **readable** medium" is claimed. *See* Office Action pg. 2. The Examiner also asserts that "carrier waves (e.g., transmissions over the Internet)" is non-statutory. *See* Office Action pg. 2.

Applicant amends paragraph [80] to change "usable" to "readable" and strike "carrier waves (e.g., transmissions over the Internet)," as found above. The Examiner indicated over the telephone on April 17, 2008, that these amendments to paragraph [80] would overcome the objection to the specification.

**III. Claim Rejections Under 35 U.S.C. § 101**

The Examiner has rejected claims 9-13 under 35 U.S.C. § 101 because the claims are allegedly directed to non-statutory subject matter. Specifically, the Examiner asserts that "carrier

waves (e.g., transmissions over the Internet)” is non-statutory. *See* Office Action pgs. 2-4. As noted above, Applicant strikes this from paragraph [80], as shown above, to obviate the rejection.

In the brief telephone conversation with the Examiner on April 17, 2008, Applicant’s representatives confirmed with the Examiner that striking “carrier waves (e.g., transmissions over the Internet)” would overcome this rejection of claims 9-13.

#### **IV. Claim Rejections Under 35 U.S.C. § 102**

Claims 1, 8, and 9 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,969,764 to Sun et al. (hereinafter “Sun”). Applicant respectfully submits the following in traversal.

Regarding claim 1, Applicant respectfully submits that Sun does not disclose, *inter alia*, “performing initialization in which a video frame is inputted and a memory is allocated to a rate distortion buffer where an encoded bitstream to be transmitted to a decoder is stored.” The Examiner contends that items 26 and 28 in Figure 3 of Sun correspond to this feature of claim 1. *See* Office Action pg. 4. Applicant respectfully submits that these two items do not disclose this feature of claim 1 for at least the following reasons.

Specifically, under the heading “A. Initialization 26,” Sun discloses that initialization involves extending “most rate variables ... to vectors so that each VO [video object] can carry its own separate information.” *See* Sun col. 5 lines 1-5. Sun “summarizes the notations used to describe the method” in Table 1, which further describes the “Initialization 26” step. *See* Sun col. 4 line 67; Sun col. 5 lines 10-40. As Sun further discloses, the pre-encoding block 22 titled “joint buffer control” involves “adjustments [to the initial target] based on the buffer 18 fullness” according to given equations. *See* Sun col. 6 lines 28-55. Neither item 26 nor item 22 discloses

“performing initialization in which a video frame is inputted and a memory is allocated to a rate distortion buffer where an encoded bitstream to be transmitted to a decoder is stored,” as recited in claim 1, and for at least these reasons Applicant respectfully submits that Sun cannot anticipate claim 1.

Also regarding claim 1, Applicant respectfully submits that Sun does not disclose, *inter alia*, “[a] bit rate control method comprising ... **updating the rate distortion buffer.**” The Examiner contends that item 28 in Figure 3 of Sun discloses this feature of claim 1. On the contrary, item 28, which is titled “Update RD **Model** [and] Determine  $X1(i)$ ,  $X2(i)$ ,” involves determining parameters for the rate-distortion model. *See* Sun col. 5 lines 44-45 (emphasis added). Specifically, item 28 models the “encoder rates-distortion function” using a given equation. *See* Sun col. 5 lines 44-50. Using the same equation, Sun separately calculates the model parameters  $X1_i$  and  $X2_i$  for every VO. *See* Sun col. 5 lines 52-53. The equation in Sun gives values corresponding “to the amount of bits used for coding the texture component only” for each VO. *See* Sun col. 5 lines 55-57. In other words, Sun’s item 28 only discloses determining values for specific parameters, not “updating the rate distortion buffer,” and for at least these reasons, Applicant respectfully submits that Sun cannot anticipate claim 1.

Additionally regarding claim 1, Applicant respectfully submits that Sun does not disclose, *inter alia*, “receiving the next video frame, and estimating a quantization parameter if the received video frame is not a first video object plane, and inter-coding the received video frame if the received video frame is a first video object plane.” Instead, Sun discloses that the **target bit** is estimated, whereas the quantization level is **calculated**, both as part of the pre-encoding stage 20. *See* Sun col. 9 lines 24-31. Sun, moreover, does not disclose performing operations depending on whether “the received video frame is a first video object plane,” as

recited in claim 1. As a result, Applicant respectfully submits that Sun does not disclose at least these unique features of claim 1, and as a result Sun cannot anticipate claim 1.

Further regarding claim 1, Applicant respectfully submits that Sun does not disclose, *inter alia*, “performing one of a back propagation model update and a self-organizing control based on the number of the inputted video frames after inter-coding the next video frame, and then performing the post-frame skip again.” On the contrary, Sun discloses neither “a back propagation model update” nor “a self-organizing control,” much less “performing the post-frame skip again.” The Examiner contends that these features are disclosed by Sun in “Fig. 3, items 28 and 29 wherein the post-frame skipping is repeated as the model is updated.” *See* Office Action pg. 5. Figure 3 of Sun, however, shows that following “Update RD Model” item 28, the next step is “Post-Frameskip Control” item 29, followed by “Mode of Operation” item 33. Contrary to the Examiner’s suggestion, no arrow is depicted showing that item 29 is repeated once it has been performed. *See* Sun FIG. 3. As a result, Applicant respectfully submits that, for at least these reasons, Sun cannot anticipate claim 1.

Furthermore regarding claim 1, Applicant respectfully submits that Sun does not disclose, *inter alia*, “receiving the next video frame and estimating quantization parameters of all the video frames or performing the self-organizing control in all the video frames.” As suggested above, Sun discloses neither “estimating quantization parameters of all the video frames” nor “self-organizing control in all the video frames.” The Examiner contends that col. 8 lines 6-34 and col. 12 lines 12-15 of Sun disclose these features of claim 1. *See* Office Action pg. 5. On the contrary, in presenting simulation results, Sun discloses that experimenters chose “[a]n initial quantization parameter of 15 ... for the I-frame, but thereafter **the quantization parameter was automatically determined.**” *See* Sun col. 8 lines 5-9 (emphasis added). Elsewhere, Sun again

discloses that “an initial quantization parameter of 15 was chosen” by experimenters for the first round, “but [that] thereafter the quantization parameter was automatically determined.” *See* Sun col. 12 lines 12-15. In other words, Sun does not disclose “receiving the next video frame and estimating quantization parameters of all the video frames or performing the self-organizing control in all the video frames,” as recited in claim 1. Applicant respectfully submits that, for at least these reasons, Sun cannot anticipate claim 1.

Regarding claims 8 and 9, Applicant respectfully submits that claims 8 and 9 are patentable for at least the same or similar reasons as those submitted for claim 1.

It is well known that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *cited in* M.P.E.P. § 2131. In summary, Applicant respectfully submits that not each and every element as set forth in claims 1, 8, and 9 is found in Sun, and that, for at least the reasons submitted above, Sun cannot anticipate claim 1, 8, or 9.

Regarding claim 10-13, Applicant respectfully submits that claims 10-13, which are ultimately dependent from independent claim 9, are patentable at least by virtue of their dependency from claim 9.

Further regarding claims 10-13, the Examiner has not cited any references in rejecting claims 10-13. The only basis for rejection claims 10-13 is under 35 U.S.C. § 101. Applicant respectfully requests that the Examiner indicate in the next office whether claims 10-13 contain allowable subject matter.

**V. Allowable Subject Matter**

The Examiner has objected to claims 2-5 as being objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the base claim and any intervening claims.

Applicant respectfully requests that the Examiner hold the allowable subject matter in abeyance at least until the arguments submitted above have been considered.

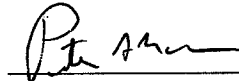
**VI. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

This Amendment is being filed via the USPTO Electronic Filing System (EFS).

Applicant herewith petitions the Director of the USPTO to extend the time for reply to the above-identified Office Action for an appropriate length of time if necessary. Any fee due under 37 U.S.C. § 1.17(a) is being paid via the USPTO Electronic Filing System (EFS). The USPTO is also directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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**23373**

CUSTOMER NUMBER

Date: June 19, 2008